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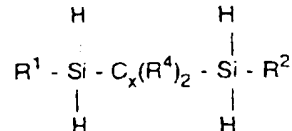
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(54) **Low temperature deposition of silicon dioxide using organosilanes**

(57) The present invention is a process for very low temperature chemical vapor deposition of silicon dioxide, comprising the steps of

a) heating a substrate upon which silicon dioxide is to be deposited to a temperature in the range of approximately 150 to 500°C in a vacuum maintained at a pressure in the range of approximately 50 to 750mTorr;

b) introducing into said vacuum an organosilane containing feed and an oxygen containing feed, said organosilane containing feed consisting essentially of one or more compounds having the general formula:



wherein R<sup>1</sup> and R<sup>2</sup> are independently H, alkyl, alkenyl, alkynyl, or aryl, having C<sub>1</sub> to C<sub>6</sub>, but only one of R<sup>1</sup> and R<sup>2</sup> can be H, or R<sup>1</sup> and R<sup>2</sup> can be connected by an alkyl chain C<sub>x</sub>(R<sup>3</sup>)<sub>2</sub>, where R<sup>3</sup> is independently H, C<sub>x</sub>H<sub>2x+1</sub> and x = 1-6, and R<sup>4</sup> is independently H, C<sub>y</sub>H<sub>2y+1</sub> where y = 1-6; and

c) maintaining said temperature and vacuum thereby causing a thin film of silicon dioxide to deposit on the substrate.

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# EUROPEAN SEARCH REPORT

Application Number  
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	EP 0 387 403 A (AIR PROD & CHEM) 19 September 1990 * page 10, line 20 - page 13, line 20; claims 1-10 * ---	1-3,8	H01L21/316 H01L21/768
A	EP 0 533 129 A (AIR PROD & CHEM) 24 March 1993 * page 5, line 25 - page 8, line 28; claims 1-22 * -----	1-4,8	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			H01L
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 16 April 1997	Examiner Königstein, C
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- &amp; : member of the same patent family, corresponding document</p>			

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